Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Original) A method for the synthesis of large area uniform silicon cone arrays on a substrate by ion-beam sputtering, wherein total pressure is kept at 2 x 10^{-4}Torr, silicon is used as a substrate, and a metal is used as a catalyst.

2. (Currently Amended) A method as claimed in claim 1 wherein ~~the sputter gas~~ the ion-beam sputtering is carried out using a sputter gas that is selected from ~~any of~~ the group consisting of helium, neon, argon, xenon and hydrogen.

3. (Currently Amended) A method as claimed in claim 1 wherein the catalyst is selected from ~~any of~~ the group consisting of molybdenum, tungsten and nickel.

4. (Original) A method as claimed in claim 1 wherein the substrate temperature ranges from 100°C to 600°C.

5. (Original) A method as claimed in claim 1 wherein the ion energy is maintained in the range of 100eV to 1000eV.

6. (Currently Amended) A method as claimed in claim 1 wherein the angle between ~~the center ion beam~~ the center of the ion-beam and the substrate surface normal ranges from 0 to 90 degrees.

7. (Original) A method as claimed in claim 1 wherein the fabrication time is between 30-240 minutes.

8. (Cancelled)

9. (Currently Amended) ~~A method as claimed in claim 8 wherein the first material is selected from the group consisting of germanium, copper, or graphite~~ A method for the synthesis of large area uniform cone arrays made of a first material by ion-beam sputtering, wherein the first material is used as a substrate, and a second material is used as a catalyst, wherein the first material is selected from a group consisting of germanium or graphite, wherein the second material is a metal.

10. (Currently Amended) Apparatus for ion-beam sputtering of large area uniform silicon cones, comprising a high vacuum chamber suitable for ion-beam sputtering, an ion-source, means for holding a substrate in the chamber, means for arranging a metal catalyst around the substrate, means for adjusting the substrate temperature and means for adjusting the angles between ~~the center ion-beam~~ the center of the ion-beam of said ion-beam sputtering and the substrate surface normal.

11. (Original) Apparatus as claimed in claim 10 wherein the ion source is an rf ion source or a Kaufman ion-source.

12. (Currently Amended) Apparatus as claimed in claim 10 wherein ~~the substrate holder clamp is~~ said substrate holder means comprises a substrate holder clamp made of molybdenum, tungsten, or nickel.

13-37. (Cancelled)

38. (New) Apparatus for ion-beam sputtering of large area uniform silicon cones, comprising a high vacuum chamber suitable for ion-beam sputtering, an ion source, means for holding a substrate in the chamber, means for arranging a metal catalyst around the substrate, means for adjusting the substrate temperature, means for adjusting the angles between the center of the ion beam of said ion-beam sputtering and the substrate surface normal, wherein the said substrate holder means comprises a substrate holder clamp made of molybdenum, tungsten, or nickel.

39. (New) Apparatus for ion-beam sputtering of large area uniform silicon cones, comprising a high vacuum chamber suitable for ion-beam sputtering, an ion source, means for holding a substrate in the chamber, means for arranging a metal catalyst around the substrate, means for adjusting the substrate temperature, means for adjusting the angles between the center of the ion beam of said ion-beam sputtering and the substrate surface normal, and means for maintaining the vacuum chamber at an operating pressure of $2x\ 10^{-14}$ Torr.

Support for Amendments

New claim 38 combines claim 10 and claim 12. New claim 39 is claim 10 with an additional pressure limitation supported in the specification at pages 8, line 21.

No new matter is introduced by the above Amendment, and entry thereof is requested. Upon entry, claims 1-7, 9-12, and 38-39 are active in this application.